

## Alain NIGANZE

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### Professional Summary

Detail-oriented full-stack software engineer specializing in scalable web applications, embedded systems, and data-driven solutions. Expertise in object-oriented programming, data structures, cloud-based integrations, with hands-on experience in innovative projects. Passionate about solving complex problems in AI, IoT, and software engineering.

### Education

#### Bachelor of Science in Computer and Software Engineering

University of Rwanda | Graduation: October 2024

- Relevant coursework: Data Structures, Embedded Systems, Algorithms, Computer Architecture, System Design, Project Management
- Developed a Hotel Management System using Java, demonstrating OOP expertise and teamwork.
- Designed a Temperature Monitoring System using Arduino during CMU-Africa Bridge Program.

### Technical Skills

- **Languages:** Java, JavaScript, TypeScript, React, Tailwind css, Python, C/C++, MATLAB
- **Tools/Technologies:** Arduino IDE, visual studio code, Quartus Altera, Raspberry Pi, ARM Cortex-M
- **Concepts:** Data Structures, Embedded Systems, Signal Processing, Algorithm Optimization

### Professional Experience

#### Software Tester

*Tosts Group HQ* | [2024 – Present]

- Identified and resolved critical issues in cleaning and payment processing systems.
- Collaborated with the development team to optimize app functionality and enhance user experience.

#### Full Stack Developer Intern

*Data System Ltd* | [May 2024 – Nov 2024]

- Contributed to GiraICT eCommerce platform development, utilizing Next.js for high-performance user interfaces.
- Developed responsive, user-friendly designs ensuring smooth online transactions.

#### Front-End Developer Intern

*STES Group* | [2023]

- Recommended by the University of Rwanda for an industry attachment program.
- Enhanced user interfaces for company applications, improving usability and customer satisfaction.

#### Project Site Manager

*Rulindo District, World Bank Partnership* | [Sept 2020 – May 2021]

- Managed construction logistics, ensuring safety protocols and overseeing inventory and payroll using Excel.
- Facilitated communication between stakeholders, including government officials and auditors.

## **Key Projects**

### **Gate Guard Visitor Notification System**

- Developed a secure visitor management system using ESP32 and OLED display, enabling real-time alerts and SMS responses.
- Key technologies: Wi-Fi, real-time communication.

### **Musa Healthcare Platform**

- Created an online platform connecting users to Muganga Musa, a traditional medicine specialist in Rwanda, facilitating appointment bookings and healthcare advice.

### **Hotel Management System**

- Built an online booking platform using Java and OOP principles, incorporating customer management and transaction tracking.

### **Digital Signal Processing Project**

- Created and ported a noise reduction filter using MATLAB to DSP hardware for enhanced signal processing.

## **Leadership & Volunteer Roles**

### **Team Leader**

- Led a team in the development of embedded systems projects, ensuring timely delivery and clear communication of requirements.

### **Volunteer IT Support**

- Assisted in IT training and system setup for community members in rural Umurenge, 2022.

## **Certifications & Achievements**

- Front-End Developer Certification [Klab Rwanda, 2023]
- Back-End Developer Certification [ALX-Africa, 2023]
- Software Embedded Systems Developer and Entrepreneurship Certification [Fablab Rwanda – ICT Chamber, 2024]
- Cisco Networking Academy® program Certification (CCNV7, IT Essentials) [2021- 2023]
- Bridge Program Completion [Carnegie Mellon University Africa, 2025].

## **Languages**

- **English:** Fluent
- **Kinyarwanda:** Fluent